

**Preliminary Determination**  
WestRock  
Stevenson Mill  
705-0014  
Recovery CO BACT Limit Adjustment

On May 31, 2017, WestRock's Stevenson Mill submitted an Air Permit application to the Department. The purpose of the application is to request an adjustment of the Carbon Monoxide Best Available Control Technology (BACT) limit for the Recovery Boiler.

On February 10, 2015, the Stevenson Mill submitted an Air Permit application to the Department to modify the Recovery Boiler and Paper Machines. The purpose of the application was to convert the Mill from a NSSC pulping process to a sodium carbonate / sodium hydroxide semi-chemical process (CPU Project) and to upgrade the production capacity of the paper machines (SPMSU Project). This project went thru the PSD permitting process for NO<sub>x</sub>, CO and VOC. The Recovery Boiler was issued a permit on April 29, 2015, with a CO BACT Limit of 213.0 ppm @ 8% O<sub>2</sub> (3 hr avg) and 87.50 lb/hr. The Recovery Boiler was given a TAO on June 16, 2016, and an ATO on March 21, 2017.

The Mill submitted the current application to request a change in the CO limit for the Recovery Boiler and to remove the Subpart Db 10% fossil fuel capacity factor. As described in the original PSD application, submitted in March 2015, two new natural gas burners, each rated at 20 MMBtu/Hr, were to be installed on the recovery boiler. The burners were expected to be in service at all times with a predicted continuous total natural gas heat input of 10 MMBtu/Hr or less. The new natural gas burners were expected to use approximately 10 MSCFH of natural gas. This firing rate was developed by the boiler manufacturer to support operational stability and promote smelt spout flow using the new carbonate liquor. The emission limitations were based on this gas rate usage and emission guarantees from the boiler manufacturer. In August 2016 the recovery boiler was started up. In December 2016 the Mill had determined that between 80 and 100 MSCFH of natural gas was needed to comply with the CO and NO<sub>x</sub> emission limits, which is considerably higher than the predicted 10 MSCFH. Since December 2016, the Mill and B&W have conducted investigations into the cause of the higher natural gas usage and higher than expected CO emissions. The Mill has made several changes to the system and operating procedures including removing the scrubber packing and re-balancing the ID fans for improved combustion air flow and adjustment and replacement of liquor gun nozzles to improve liquor distribution. After these and other changes, WestRock has concluded that at the boilers typical day-to-day liquor firing rate, the performance guarantee for CO provided by the manufacturer cannot be met and the original natural gas firing rate estimate of 10 MSCFH was erroneously low.

### **Emissions**

There will not be a change in the emissions from the Recovery Boiler associated with the 2015 project. The current BACT limit for CO was set at 213.0 ppm @ 8% O<sub>2</sub> (3 hr avg) and 87.50 lb/hr. The Stevenson Mill has requested a change in the averaging time of the

CO limit. The Mill has proposed 200.0 ppm @ 8% O<sub>2</sub> (30 day avg) and 87.50 lb/hr. The Mill believes this is a more appropriate limit which will allow the mill to work through minor upsets and still maintain compliance with the proposed BACT limit. The Mill also had the National Council for Air and Stream Improvement (NCASI) conduct an evaluation of the CEM's data from August 2016 to April 2017 and model that data for the following 10 years, and it predicted no exceedance's of the 200.0 ppm @ 8% O<sub>2</sub> limit on a 30 day avg.

### **NSPS/NESHAPS**

NSPS Subpart Db applies to fossil fuel fired steam generating units for which construction commenced after June 19, 1984 and that have a maximum design heat input capacity greater than 100 MMBtu/hr. The recovery boiler is currently subject to opacity standard of Subpart Db while firing only fossil fuel. This limits visible emissions from the unit to 20% except for one six minute period per hour not to exceed 27%. The recovery boiler is currently exempt from the Subpart Db NO<sub>x</sub> standards because it has a 10% annual fossil fuel heat input capacity limit. The Stevenson Mill has requested the 10% annual fossil fuel heat input capacity limit be removed from the permit. Since the capacity factor will be removed, the Mill will be subject to NO<sub>x</sub> standards of Subpart Db. The Recovery Boiler will now have an emission limitation of 0.10 lb/MMBtu (30 day rolling average) while firing natural gas or distillate oil and 0.20 lb/MMBtu (30-day rolling average) while combusting natural gas or distillate oil in combination with black liquor solids. The Mill plans to utilize natural gas as the primary supplemental fuel for the recovery boiler, and intends to use No. 2 fuel oil only during periods of natural gas curtailment.

The Recovery Boiler will remain subject to the current opacity standard of 20% except for one six minute period per hour not to exceed 27% as required by 60.43b(f).

60.42b(k)(2) states that units firing only very low sulfur oil, gaseous fuel, a mixture of these fuels, or a mixture of these fuels with any other fuels with a potential SO<sub>2</sub> emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the SO<sub>2</sub> emissions limit in paragraph (k)(1) of this section. Since this unit is firing natural gas and very low sulfur oil as supplemental fuels and these fuels have a potential emission rate of 0.006 lb/MMBtu, it is exempt from the SO<sub>2</sub> requirements of Db.

The Recovery Boiler will be exempt from the PM requirements as allowed by 60.43b(h)(5) since the existing dual-fuel burners and the new burners will fire only natural gas and very low sulfur oil, and since the recovery boiler will not use a conventional or emerging technology for control of SO<sub>2</sub> emissions.

Subpart MM—National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semi-chemical Pulp Mills applies to Mills that are a major source of HAPs. The Mill's recovery boiler will remain subject to and will continue to comply with the regulatory requirements and standards for the semi-chemical process under Subpart MM.

At the time Subpart MM was promulgated in 2001, the CO limit for the Recovery Boiler was 600 ppm corrected to 8% oxygen. This was a BACT limit that remained in effect from 1999 to 2015 until it was lowered to 213 ppm for the Recovery Boiler modifications implemented with the CPUP. In 2001, the facility had submitted an alternative monitoring plan, which was approved by ADEM and US EPA, where a continuous monitoring system for CO and compliance with the CO limit of 600 ppmvd corrected to 8% oxygen on a rolling 3-hour basis was accepted as the continuous monitoring parameter for the gaseous organic HAPs limit. Therefore the 600 ppmvd corrected to 8% oxygen BACT limit that was found to be an appropriate monitoring parameter value for the Subpart MM limit of 2.97 lb/ton gaseous organic HAP was the original CO BACT limit for the recovery boiler and not the 213 ppm limit that was established during the 2015 CPUP permitting process. This limit will be placed back into the permit to indicate compliance with Subpart MM.

Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, will not apply to the Recovery Boiler since §63.7491 exempts recovery boilers covered by Subpart MM from having to meet the requirements of this MACT.

### **Ambient Air Impact Analysis (Modeling)**

The modeling performed in the 2015 permitting exercise was based on the 87.50 lb/hr CO mass emission rate which indicated it would be at 8.5% of the 1 hr SIL and 5.7% of the 8 hr SIL for CO. Since the mass emission rate for CO has not changed no further modeling was deemed necessary.

### **Visibility**

The PSD regulations require that an analysis of the potential impairment to visibility in Class I areas be completed. Since the plant would be located greater than 100 km from the nearest Class I area (Cohutta Wilderness), it is unlikely that the proposed project would adversely affect visibility in this area.

### **Class I**

This project would be located greater than 100 km from the nearest Class 1 Area (Cohutta Wilderness). The emissions from the project are not expected to affect the Cohutta Wilderness.

### **Secondary Impacts**

The effects of NO<sub>x</sub> on vegetation in the area surrounding WestRock's Stevenson Mill would be expected to be very small. The predicted concentrations from the proposed modification would be far below the levels known to have an adverse impact on vegetation. A visibility analysis was performed during the original submittal in 2015, and that visibility analysis predicted no adverse effects from the proposed increase. Since

there were no changes to the NO<sub>x</sub> emissions rate, the previous visibility analysis is deemed acceptable.

### **Coastal Consistency**

The facility is not located in Mobile or Baldwin County. Therefore, the ADEM - Coastal Section was not contacted concerning the proposed modifications.

### **Recommendation**

The analysis indicates that the proposed project would meet all requirements of the ADEM - Administrative Code R. 335-3. Therefore, I recommend that air permit X014 be issued incorporating the provisos found in Appendix B, pending the results of a 30-day public comment period. The Title V Permit will also need to be modified incorporate the changes to the permit; Therefore, I recommend that this be processed as an major modification to the Title V permit, pending the results of a 30-day public comment period and 45 day EPA review. These notices shall be run concurrently.



C. Scott Sanders  
Industrial Chemicals Section  
Chemical Branch  
Air Division

June 19, 2017

Date

# **Appendix A**

## PSD Program Summary

# A SUMMARY OF THE PREVENTION OF SIGNIFICANT DETERIORATION (PSD) PROGRAM

## **PREFACE**

The enclosed material, entitled "Questions and Answers on PSD" and "Glossary of PSD Terms," is intended for use by industrial planners, recruiters, industrial development boards, chambers of commerce, and others who may have a role in permit applications under the PSD program.

The material is very general and definitional and is not intended as a comprehensive instruction manual for obtaining a PSD permit. Persons desiring specific requirements on obtaining a PSD Permit for a project should contact the:

AIR DIVISION  
ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

P. O. BOX 301463  
MONTGOMERY, ALABAMA 36130-1463

1400 COLISEUM BOULEVARD  
MONTGOMERY, ALABAMA 36110-2059

PHONE (334) 271-7861

## GLOSSARY OF PSD TERMS

1. Air Quality Impact Analysis - The material required to be submitted to the Alabama Department of Environmental Management (ADEM) in order to receive a permit to construct under the PSD program. This material includes a summary of the impact of the source's projected emissions on air quality as determined by mathematical modeling and a discussion of the emission controls to be used, the fuel to be burned, the performance of the equipment, and an analysis of the baseline conditions at the source site, prior to construction. The source's emissions must, in no case, violate the maximum allowable increment for the area or the National Ambient Air Quality Standards (NAAQS).
2. Ambient Air Concentration - The concentration of air pollutants in the atmosphere to which the public are exposed. Sources emit air pollutants which are dispersed into the atmosphere and result in ambient concentrations.
3. Ambient Monitoring - Use of instruments to measure actual ambient concentrations of air pollutants.
4. Attainment Areas - Areas with air quality cleaner than the NAAQS. These are the only areas to which PSD review applies.
5. Averaging Times - The law sets standards for maximum concentrations of air pollutants (increments) which cannot be exceeded during three hour, twenty-four hour or annual periods. Dispersion modeling is used to determine the maximum concentrations of air pollutants which will be emitted during each of these periods.
6. Baseline - The ambient concentration level of a pollutant which exists at the time of the first major source application for a permit in a PSD (attainment) area.
7. Best Available Control Technology (BACT) - An emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under the PSD program, which ADEM determines is achievable for the source. The determination is made on a case-by-case basis, taking into account energy, environmental and economic impacts and other costs. The emission limitation limits the amount of a pollutant which can be emitted or sets equipment specifications which are individualized for the particular source.



8. Completed Application - The completed application for an Air Permit authorizing construction and operation in a PSD area includes completed permit application forms, maps of the plant site, diagrams of the proposed pollution control equipment, the air quality impact analysis defined above, BACT determination and an analysis of impact on soils, vegetation and visibility.
9. Dispersion Modeling - Use of sophisticated computer simulation techniques to estimate the concentration of air pollutants resulting from source emissions. The necessary inputs for modeling include the location, stack heights, stack diameters, exhaust gas temperatures, and gas volumes for the source along with meteorological information. The output is a projected distribution of ground level concentrations for various averaging times.
10. Increments, Increment Consumption - The maximum allowable increase in concentrations of pollutants by which air quality in PSD areas is allowed to deteriorate relative to the baseline. Increment consumption refers to the percentage of an increment used by a source.
11. Major Modification - A plant modification which results in a significant net increase in any pollutant emitted from a major facility (see Table 3).
12. National Ambient Air Quality Standards (NAAQS) - Levels set by EPA which define the concentrations necessary to protect human health and welfare. The pollutants for which ambient air quality standards have been established are: particulates, sulfur dioxide, ozone (VOCs), carbon monoxide, nitrogen dioxide and lead.
13. Nonattainment Areas - Specifically identified areas where monitored or modeled air quality concentrations exceed the NAAQS.
14. Prevention of Significant Deterioration - Identifies the requirements that sources must satisfy in order to obtain permission to construct in attainment areas. The purpose of the PSD program is to limit, by specified increments, the worsening (deterioration) of air quality conditions due to industrial growth in clean air areas.
15. Public Comment Period, Public Hearing - The 30-day period during which data and information relevant to the air quality impact of the proposed construction are received from the public, after which a transcribed public hearing may be held before an agency hearing officer.



## QUESTIONS AND ANSWERS ON PSD

Note: Phrases and concepts relating specifically to the PSD program are underlined

\*Please refer to the Glossary (attached) for definitions.

1. Q. What is PSD?

- A. PSD (Prevention of Significant Deterioration)\* is a program enacted by Congress in 1977 which is designed to prevent any serious (significant) deterioration of air quality in areas in which the air is cleaner than National Ambient Quality Standards (NAAQS)\* require. Congress required that each state adopt regulations that implement the requirements for PSD through a preconstruction review of new industrial facilities which results in the issuance of a permit to construct that facility. Alabama has adopted and administered these regulations.

2. Q. How is deterioration limited?

- A. Concentrations of pollutants are allowed to increase by specified amount above a baseline\* value. These allowable increases in concentration are called the PSD increments\*. The size of the increments varies for different pollutants, averaging times\*, and area classifications. Table 1 lists each of the increments. When an increment is totally consumed, further industrial growth would be prohibited unless other measures (such as more stringent regulations on existing industry) reduce air pollution concentrations in the area.

3. Q. How is the classification of PSD areas determined?

- A. The 1977 law designated as Class I areas, for the purpose of the PSD program, all international parks, all national wilderness areas and national, memorial parks over 5,000 acres in size and all national parks in existence on August 7, 1977, which are over 6,000 acres in size.

Little industrial growth is expected in or adjacent to Class I areas due to the small increment established by Congress.

Class II areas comprise all areas which are not exceeding the National Ambient Air Quality Standards and which are not Class I. It is expected that the Class II increment is large enough to accomodate "moderate" industrial growth.

Class III areas, of which there are presently none in the country, are those areas in which greater deterioration in the air quality will be allowed than in either Class I or Class II areas, resulting in greater potential for industrial development.

4. Q. Where are the Class I and Class II areas in Alabama?

- A. The Sipsey Wilderness Area, located primarily in Lawrence and Winston Counties, is designated as Class I. All other regions in Alabama are designated Class II except nonattainment areas. Breton Wildlife Refuge in southern Louisiana could be of possible concern in Alabama (See Table 4).

5. Q. What sources of air pollution does the PSD program include?

- A. The PSD program affects only new sources (plants) to be built in a PSD area or major modifications\* of sources located in one of these areas.

Secondly, in order to be affected by the PSD program, the source to be built must be a major emitting facility (major source) defined as any of twenty-eight (28) types of plants which emit one hundred tons or more of any air pollutant per year, or any other source with the potential to emit two hundred and fifty (250) tons per year or more of any air pollutant. The twenty-eight plants are listed in Table 2.

6. Q. Once it is determined that a plant would be subject to the PSD program, what steps must it take before it can be allowed to construct?

- A. According to the 1977 law, the source must:

(1) be subjected to a preconstruction review in accordance with the PSD regulations and to public participation in the permitting process relative to the air quality impact the source will have once it is built;

(2) obtain a permit which sets forth emission limitations for the source (see #4);

(3) demonstrate that the emissions from the source will not cause or contribute to air pollution which exceeds

(A) the maximum allowable increments\*; and

(B) the national ambient air quality standard\* in any air quality control region.

The source must also:

(4) apply best available control technology\* (BACT), which is defined in terms of an emission limitation, based on the maximum degree of reduction of each pollutant which is determined to be achievable for the particular source:

(5) address the impacts on visibility, soils and vegetation;

- (6) submit an analysis of any air quality impacts projected due to the growth associated with the facility; and
- (7) conduct any ambient air quality monitoring\* necessary to determine the effect of the emission on air quality.

7. Q. How is public participation in the permitting process implemented?

A. After the source submits a completed application\* for a PSD permit, a public notice is published in a newspaper of general circulation in the location of the proposed source or modification. The public is then allowed to examine all materials submitted for the permit and a thirty (30) day public comment period\* is held in order to receive data and additional information relative to the permit application. A public hearing\* may also be held if sufficient comments are received in response to the proposed construction.

8. Q. For the purposes of the PSD program, how does the source demonstrate that its emissions will not exceed the maximum allowable increments for the area, and the national ambient air quality standards?

A. The demonstration is made through the use of dispersion modeling\*, which is a mathematical technique for simulating the dispersion in the atmosphere of a source's emissions under various meteorological conditions and operating levels. The purpose of modeling is to predict future air pollutant concentrations in the vicinity of the source, prior to its construction.

In submitting its demonstration, the source must use modeling techniques which are compatible with those approved by EPA and which are specified in EPA's Guidelines on Air Quality Models.

9. Q. What is required in submitting an air quality impact analysis\*?

A. The air quality impact analysis largely consists of an analysis of the effect of the source's emissions on air quality in the region. This is a summary of the results of the dispersion modeling, discussed earlier. Also included are the particular emission controls which will be constructed or used; the fuel to be burned, its handling and storage; the performance of the equipment and how performance and emissions will be monitored; local vegetation and terrain features; and the baseline conditions at the source, including meteorology and climate, to be considered for calculation of the pollutant concentrations from the source.

TABLE 1

## PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENTS

POLLUTANT	Maximum Allowable Increase (ug/m <sup>3</sup> ) Class		
	I	II	III
Particulate (PM <sub>10</sub> ):			
Annual Arithmetic Mean	4	17	34
Twenty-Four Hour Maximum	8	30	60
Particulate (PM <sub>2.5</sub> ):			
Annual Arithmetic Mean	1*	4*	8*
Twenty-Four Maximum	2*	9*	18*
Sulfur Dioxide:			
Annual Arithmetic Mean	2	20	40
Twenty-Four Maximum	5	91	182
Three-Hour Maximum	25	512	700
Nitrogen Dioxide:			
Annual Arithmetic Mean	2.5	25	50

\*Remanded to EPA – No longer formal increments

For any period other than an annual period, the applicable maximum allowable increase may be exceeded during one such period per year at any one location. The full increment is not to be used if it would result in a violation of a NAAQS.

TABLE 2  
MAJOR STATIONARY SOURCES

Sources with potential to emit 100 tons per year of any air contaminant regulated under the ACT in the following categories are subject to a PSD review:

1. Fossil-fired steam electric plants of more than 250 million British thermal units per hour heat input
2. Coal cleaning plants (with thermal dryers)
3. Kraft pulp mills
4. Portland cement plants
5. Primary zinc smelters
6. Iron and steel mill plants
7. Primary aluminum or reduction plants
8. Primary copper smelters
9. Municipal incinerators capable of charging more than 250 tons of refuse per day
10. Hydrofluoric acid plants
11. Nitric acid plants
12. Sulfuric acid plants
13. Petroleum refineries
14. Lime plants
15. Phosphate rock processing plants
16. Coke oven batteries
17. Sulfur recovery plants
18. Carbon black plants (furnace process)
19. Primary lead smelters
20. Fuel conversion plants
21. Sintering plants
22. Secondary metal production plants
23. Chemical process plants
24. Fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input
25. Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels
26. Taconite ore processing plants
27. Glass fiber processing plants
28. Charcoal production plants

All other sources with potential to emit 250 tons per year of any air contaminant regulated under the Act are subject to a PSD review.

**TABLE 3**

REGULATED POLLUTANTS'  
SIGNIFICANT EMISSIONS (TONS/YEAR)

Carbon Monoxide	100
Nitrogen Oxides	40
Sulfur Dioxide	40
Particulate Matter	25
Inhalable Particulate Matter (PM <sub>10</sub> )	15
Ozone	40 (of VOC)
PM 2.5	10
Lead	0.6
Fluorides	3
Sulfuric Acid Mist	7
Hydrogen Sulfide	10
Total reduced sulfur	10

## **Appendix B**

### **Proposed Permit**





# MAJOR SOURCE OPERATING PERMIT

Permitee: **WestRock CP, LLC**  
Facility Name: **WestRock - Stevenson**  
Facility No.: **705-0014**  
Location: **STEVENSON, ALABAMA**

*In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Code of Alabama 1975, §§22-28-1 to 22-28-23 (the "AAPCA") and the Alabama Environmental Management Act, as amended, Code of Alabama 1975, §§22-22A-1 to 22-22A-15, and rules and regulations adopted thereunder, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described below.*

*Pursuant to the Clean Air Act of 1990, all conditions of this permit are federally enforceable by EPA, the Alabama Department of Environmental Management, and citizens in general. Those provisions which are not required under the Clean Air Act of 1990 are considered to be state permit provisions and are not federally enforceable by EPA and citizens in general. Those provisions are contained in separate sections of this permit.*

Issuance Date: *November 17, 2015*  
Effective Date: *January 1, 2016*  
Most Recent Modification: *September XX, 2017*  
Expiration Date: *December 31, 2021*

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Alabama Department of Environmental Management

## Chemical Recovery System Informational Summary

**Description:** Chemical Recovery System

**Emission Unit No:** X014

**Installation Date:** 1999

**Reconstruction / Modification date:** 2001/2015

**Operating Capacity:** 1,700,000 lb/day BLS

**Operating Schedule:** 8760 hours/year.

This unit contains equipment that is subject to the following NSPSs, NESHAPs, or MACTs:

**40 CFR Part 60 Subpart Db**

**40 CFR Part 63 Subpart MM**

### Pollutants Emitted

Emission Point #	Point Description	Pollutant	Emission Limit	Standard
X014	Chemical Recovery System	PM	$\leq 0.036$ g/sdcf at 8% O <sub>2</sub> & $\leq 43.8$ lbs/hr.	Rule 335-3-14-.04
X014	Chemical Recovery System	SO <sub>2</sub>	$\leq 120$ ppm at 8% O <sub>2</sub> (based on a 3-hr rolling average) & $\leq 170.0$ lbs/hr.	Rule 335-3-14-.04
X014	Chemical Recovery System	SO <sub>2</sub>	The fuel oil sulfur content $\leq 0.2\%$ .	Rule 335-3-10-.02(2)(b)
X014	Chemical Recovery System	NO <sub>x</sub>	$\leq 120$ ppm at 8% O <sub>2</sub> (30-day rolling average) & $\leq 72.92$ lbs/hr.	Rule 335-3-14-.04(9) and Rule 335-3-10-.02 (1) and (2)(b)
X014	Chemical Recovery System	NO <sub>x</sub>	0.10 lb/MMBtu (30-day rolling average) while firing only natural gas or distillate oil & 0.20 lb/MMBtu (30-day rolling average) while combusting natural gas or distillate oil in combination with black liquor solids.	Rule 335-3-10-.02(2)(b)
X014	Chemical Recovery System	CO	$\leq 200.0$ ppm at 8% O <sub>2</sub> (30-day rolling average) & $\leq 87.50$ lbs/hr.	Rule 335-3-14-.04(9)
X014	Chemical Recovery System	VOC	$\leq 50$ ppm at 8% O <sub>2</sub> (3-hr rolling average) & $\leq 8.87$ lbs/hr (as carbon).	Rule 335-3-14-.04(9)
X014	Chemical Recovery System	TRS	$\leq 25$ ppm at 8% O <sub>2</sub> (based on a 12-hr block average) & $\leq 18.8$ lbs/hr.	Rule 335-3—14-.04
X014	Chemical Recovery System	SAM	$\leq 5$ ppm at 8% O <sub>2</sub> & $\leq 4.0$ lbs/hr.	Rule 335-3-14-.04
X014	Chemical Recovery System	Opacity	$\leq 20\%$ with one 6-minute period up to 27% in any one hour period.	Rule 335-3-10-.02(2)(b) and Rule 335-3-4-.01
X014	Chemical Recovery System	Gaseous Organic HAPs	The concentration of gaseous organic HAP, as measured by total hydrocarbons reported as C, discharged to the atmosphere shall be $\leq 1.49$ kg/Mg (2.97 lb/ton) of BLS fired; or shall be reduced by at least 90% prior to discharge to the atmosphere. Alternative monitor parameter of is 600.0 ppm CO corrected to 8 percent O <sub>2</sub> .	Rule 335-3-11-.06 (1) and (38)

### Permitted Fuels

Fuel
No. 2 Fuel Oil (No. 2)
Black Liquor Solids
Natural Gas

## Chemical Recovery System Provisos

Federally Enforceable Provisos	Regulations												
<b>Applicability</b>													
1. This source is subject to the applicable requirements of Rule 335-3-16-.03, "Major Source Operating Permits".	Rule 335-3-16-.03												
2. This Source is subject to the requirements of ADEM Admin. Code 335-3-14-.04 (9) Prevention of Significant Deterioration (PSD) Best Available Control Technology (BACT) limits for particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds, sulfuric acid mists and total reduced sulfur.	Rule 335-3-14-.04(9)												
3. This source is subject to the applicable requirements of Rule 335-3-4-.01 for opacity.	Rule 335-3-4-.01												
4. This source is subject to the applicable requirements of ADEM Admin. Code R. 335-3-10-.02(2)(b) New Source Performance Standards Subpart Db for sulfur dioxide and opacity when No. 2 Fuel Oil is fired.	Rule 335-3-10-.01(1) and (2)(b)												
5. This source is subject to the applicable requirements of ADEM Admin. Code R. 335-3-10-.02(2)(b) New Source Performance Standards Subpart Db for nitrogen oxide emissions when No. 2 Fuel Oil or natural gas is fired	Rule 335-3-10-.01(1) and (2)(b)												
6. This source is subject to the requirements of National Emission Standards for Hazardous Air Pollutants General Provisions as provided for in Table 1 of 40 CFR Part 63 Subpart MM as referenced in ADEM Admin. Code 335-3-11-.06 (38).	Rule 335-3-11-.06(1) and (38)												
<b>Emission Standards</b>													
1. Particulate matter emissions shall not exceed the more stringent of 0.036 grains per standard dry cubic foot measured at 8 percent oxygen or 43.8 pounds per hour.	Rule 335-3-14-.04												
2. Sulfur dioxide emissions shall not exceed the more stringent of 120 ppm at 8 percent oxygen (based on a 3-hour rolling average) and 170.0 pounds per hour.	Rule 335-3-14-.04												
3. The fuel oil sulfur content shall not exceed 0.2 percent.	Rule 335-3-10-.02(2)(b)												
4. Pursuant to 40 CFR Part 60 Subpart Db, the unit (being classified as a Low Heat Release Rate Furnace per §60.41b) is subject to the standard for nitrogen oxides (§60.44b(a)(1)(i)) of 0.10 lb/MMBtu (30-day rolling average basis) while combusting only natural gas or distillate oil. The unit is subject to the standard for nitrogen oxides (§60.44b(l)(1)) of 0.20 lb/MMBtu (30-day rolling average basis) while combusting natural gas or distillate oil in combination with black liquor solids.	Rule 335-3-10-.02(2)(b)												
5. Such that the standards for Best Available Control Technology (BACT) shall be met, the following standards shall apply:	Rule 335-3-14-.04(9)												
<table><tr><th>Pollutant</th><th>Rate based limit</th><th>Mass based limit</th></tr><tr><td>NO<sub>x</sub></td><td>120 ppm @ 8% O<sub>2</sub> (30 day avg)</td><td>72.92 lb/hr</td></tr><tr><td>CO</td><td>200.0 ppm @ 8% O<sub>2</sub> (30 day avg)</td><td>87.50 lb/hr</td></tr><tr><td>VOC's as C</td><td>50 ppm @ 8% O<sub>2</sub> (3 hr avg)</td><td>8.87 lb/hr</td></tr></table>		Pollutant	Rate based limit	Mass based limit	NO <sub>x</sub>	120 ppm @ 8% O <sub>2</sub> (30 day avg)	72.92 lb/hr	CO	200.0 ppm @ 8% O <sub>2</sub> (30 day avg)	87.50 lb/hr	VOC's as C	50 ppm @ 8% O <sub>2</sub> (3 hr avg)	8.87 lb/hr
Pollutant	Rate based limit	Mass based limit											
NO <sub>x</sub>	120 ppm @ 8% O <sub>2</sub> (30 day avg)	72.92 lb/hr											
CO	200.0 ppm @ 8% O <sub>2</sub> (30 day avg)	87.50 lb/hr											
VOC's as C	50 ppm @ 8% O <sub>2</sub> (3 hr avg)	8.87 lb/hr											
6. Total reduced sulfur emissions shall not exceed the more stringent of 25 ppm at 8 percent oxygen (based on a 12-hour block average) and 18.8 pounds per hour.	Rule 335-3-14-.04												

Federally Enforceable Provisos	Regulations
<ol style="list-style-type: none"> <li>7. Sulfuric acid mists emissions shall not exceed the more stringent of 5 ppm at 8 percent oxygen and 4.0 pounds per hour.</li> <li>8. Opacity shall be no greater than 20 percent with one six-minute period up to 27 percent in any one hour period.</li> <li>9. The concentration of gaseous organic HAP, as measured by total hydrocarbons reported as carbon, discharged to the atmosphere shall be less than or equal to 1.49 kg/Mg(2.97lb/ton) of black liquor solids fired; or the gaseous organic HAP emissions, as measured by total hydrocarbons reported as carbon, shall be reduced by at least 90 percent prior to discharge of the gases to the atmosphere. The Mill has an approved alternative monitoring parameter to indicate compliance with the gaseous organic HAP by not exceeding a CO concentration of 600.0 ppm corrected to 8 percent oxygen. A violation of the gaseous organic HAP standard shall occur when six or more 3-hour average values within any 6-month reporting period are outside this established parameter range. For purposes of determining the number of monitoring exceedances, no more than one exceedance will be attributed in any given 24-hour period.</li> </ol>	<p>Rule 335-3-14-.04</p> <p>Rule 335-3-10-.01(1) and (2)(b) and Rule 335-3-4-.01</p> <p>Rule 335-3-11-.06(1) and (38)</p>
<b>Compliance and Performance Test Methods and Procedures</b>	
<ol style="list-style-type: none"> <li>1. Compliance with the particulate matter emission limit shall be determined by Reference Method 5 or 17 in Appendix A of 40 CFR 60. Alternative test methods may be used provided prior approval by the Department is granted.</li> </ol>	<p>Rule 335-3-14-.02</p>
<ol style="list-style-type: none"> <li>2. Compliance with the sulfur dioxide parts per million emission limit of this unit shall be determined by Reference Method 6 in Appendix A of 40 CFR Part 60 or by the continuous emission monitor. Alternative test methods may be used provided prior approval by the Department is granted.</li> </ol>	<p>Rule 335-3-14-.02</p>
<ol style="list-style-type: none"> <li>3. Compliance with the sulfur dioxide pounds per hour emission limit of this unit shall be determined by Reference Method 6 in Appendix A of 40 CFR Part 60. Alternative test methods may be used provided prior approval by the Department is granted.</li> </ol>	<p>Rule 335-3-14-.02</p>
<ol style="list-style-type: none"> <li>4. Compliance with the nitrogen oxide ppm emission limit shall be determined by the continuous emission monitoring system.</li> </ol>	<p>Rule 335-3-14-.02</p>
<ol style="list-style-type: none"> <li>5. Compliance with the nitrogen oxide lb/hr limit shall be determined by Reference Method 7e in Appendix A of 40 CFR Part 60. Alternative test methods may be used provided prior approval by the Department is granted.</li> </ol>	<p>Rule 335-3-14-.02</p>
<ol style="list-style-type: none"> <li>6. Compliance with the carbon monoxide limit shall be determined by Reference Method 10 in Appendix A of 40 CFR Part 60 or a continuous emissions monitor. Alternative test methods may be used provided prior approval by the Department is granted.</li> </ol>	<p>Rule 335-3-14-.02</p>
<ol style="list-style-type: none"> <li>7. Compliance with the volatile organic compound emission limit shall be determined by Reference Method(s) 25, 25A or 25B in Appendix A of 40 CFR Part 60. Alternative test methods may be used provided prior approval by the Department is granted.</li> </ol>	<p>Rule 335-3-14-.02</p>
<ol style="list-style-type: none"> <li>8. Compliance with the total reduced sulfur parts per million emission limit shall be determined in accordance with 40 CFR Part 60 Appendix A Method 16 or continuous emission monitor. Alternative test methods may be used provided prior approval by the Department is granted.</li> </ol>	<p>Rule 335-13-14-.02</p>
<ol style="list-style-type: none"> <li>9. Compliance with the total reduced sulfur pounds per hour emission limit shall be determined in accordance with 40 CFR Part 60 Appendix A Method 16. Alternative test methods may be used provided prior approval by the Department is granted.</li> </ol>	<p>Rule 335-3-14-.02</p>

Federally Enforceable Provisos	Regulations
10. Compliance with the sulfuric acid mists emission limit shall be determined in accordance with the selective condensation method outlined in the National Council of the Paper Industry for Air and Stream Improvement, Inc. (NCASI) Atmospheric Quality Improvement Technical Bulletin No. 106, April, 1980. Alternative test methods may be used provided prior approval by the Department is granted.	Rule 335-3-10-.02(2)
11. Compliance with the opacity limit shall be determined by Reference Method 9 in Appendix A of 40 CFR Part 60. Alternative test methods may be used provided prior approval by the Department is granted.	Rule 335-3-10-.02(2)
<b>Emission Monitoring</b>	
1. A particulate matter emission test shall be performed at least once per year.	Rule 335-3-14-.02
2. A continuous total reduced sulfur monitoring system to record emission rates in ppm at 8 percent oxygen shall be installed, calibrated, operated and maintained.	Rule 335-3-16-.05
3. A continuous sulfur dioxide emission monitoring system to record emission rates in ppm at 8 percent oxygen shall be installed, calibrated, operated and maintained. This continuous emission monitoring system shall be subject to the quality control and quality assurance requirements of 40 CFR Part 60 Appendix B Specification 2 and Appendix F.	Rule 335-3-16-.05
4. A continuous nitrogen oxide emission monitoring system to record emission rates in ppm at 8 percent oxygen shall be installed, calibrated, operated and maintained. This continuous emission monitoring system shall be subject to the quality control and quality assurance requirements of 40 CFR Part 60 Appendix B Specification 2 and Appendix F	Rule 335-3-16-.05
5. For particulate matter, carbon monoxide, volatile organic compounds, and sulfuric acid mists periodic monitoring, if any three-hour block average black liquor solids firing rate is greater than 110 percent of its average value set by the required complying periodic test or a complying test approved by the Department, the steam production rate is to be lowered until compliance is successfully demonstrated at the higher rate.	Rule 335-3-16-.05
6. A particulate matter periodic monitoring, if any three-hour block average ESP total power value is less than 90 percent of its average value set by the required complying periodic test or a complying test approved by the Department, the cause is to be investigated and appropriate corrective action is to be taken within twenty-four hours.	Rule 335-3-16-.05
7. The sulfur dioxide continuous emissions monitoring system shall be audited at least once per calendar quarter. A relative accuracy test audit shall be performed at least once every four calendar quarters. A cylinder gas audit may be performed in three of four calendar quarters but in no more than three quarters in succession.	Rule 335-3-14-.04
8. The nitrogen oxide continuous emissions monitoring system shall be audited at least once per calendar quarter. A relative accuracy test audit shall be performed at least once every four calendar quarters. A cylinder gas audit may be performed in three of four calendar quarters but in no more than three quarters in succession.	Rule 335-3-14-.04(9)
9. A volatile organic compound emission test shall be performed at least once every five years.	Rule 335-3-14-.02
10. A sulfuric acid mists emission test shall be performed at least once every five years.	Rule 335-3-14-.02
11. For carbon monoxide and volatile organic compounds periodic monitoring when firing black liquor, a continuous monitoring system to record carbon monoxide emission rates in parts per million at 8 percent oxygen shall be installed, calibrated, maintained, and operated. If any 30-day rolling average carbon monoxide emission	Rule 335-3-14-.02



Federally Enforceable Provisos	Regulations
<p>rate is greater than the permit limit of 200.0 ppm corrected to 8 percent oxygen, corrective actions to reduce the carbon monoxide emission rate shall be taken within 24 hours.</p> <p>12. For gaseous HAP periodic monitoring when firing black liquor, a continuous monitoring system to record carbon monoxide emission rates in parts per million at 8 percent oxygen shall be installed, calibrated, maintained, and operated. If any three-hour rolling average carbon monoxide emission rate is greater than 600.0 ppmvd corrected to 8 percent oxygen, corrective actions to reduce the carbon monoxide emission rate shall be taken within 24 hours.</p>	<p>Rule 335-3-14-.02</p>
<b>Recordkeeping and Reporting Requirements</b>	
<p>1. A particulate matter emission test report shall be submitted to the Department at least once per year.</p>	<p>Rule 335-3-14-.02</p>
<p>2. A volatile organic compound emission test report shall be submitted to the Department at least every 5 years.</p>	<p>Rule 335-3-14-.02</p>
<p>3. A sulfuric acid mists emission test report shall be submitted to the Department at least every five years.</p>	<p>Rule 335-3-14-.02</p>
<p>4. Records of all three-hour block average black liquor solids firing rates shall be made and maintained on file available for inspection for at least five years.</p>	<p>Rule 335-3-14-.02</p>
<p>5. Records of the amount of No. 2 Fuel Oil and natural gas fired shall be made and the annual capacity factor calculated for each rolling 12-month total and maintained on file available for review for at least five years.</p>	<p>Rule 335-3-10-.02(28)</p>
<p>6. A written report of the excess sulfur dioxide emissions, as defined below, will be submitted to the Department for each calendar quarter within the month following the end of the quarter. The reports will include the following information:</p> <ul style="list-style-type: none"> <li>a) The magnitude of excess emissions greater than 120 ppm at 8 percent oxygen, computed from daily averages (data recorded during periods of sulfur dioxide monitoring system breakdowns, repairs, calibration checks and zero and span adjustments shall not be included in the data averages).</li> <li>b) The date and time of commencement and completion of each time period of excess emissions.</li> <li>c) The nature and cause of the excess emissions (if known) and the corrective action taken or preventative measures adopted.</li> <li>d) The date and time identifying each period during which the monitoring system was inoperative (except for zero and span checks) and the nature of the system repairs or adjustments.</li> <li>e) When no excess emissions have occurred and the monitoring system was not inoperative or did not require repairs or adjustments, such information will be stated in the report.</li> </ul>	<p>Rule 335-3-14-.02</p>
<p>7. A written report of the nitrogen oxide emissions, as defined below, will be submitted to the Department for each calendar quarter within the month following the end of the quarter. The reports will include the following information:</p> <ul style="list-style-type: none"> <li>a) The magnitude of excess emissions greater than 120 ppm at 8 percent oxygen, computed from 30-day rolling averages (data recorded during periods of nitrogen oxide monitoring system breakdowns, repairs, calibration checks and zero and span adjustments shall not be included in the data averages).</li> <li>b) The date and time of commencement and completion of each time period of</li> </ul>	<p>Rule 335-3-14-.04(9)</p>





Federally Enforceable Provisos	Regulations
10. The owner or operator of each affected source subject to the requirements of Subpart MM shall comply with the recordkeeping requirements of 40 CFR §63.10 of Subpart A, as shown in Table 1 of Subpart MM and the requirements specified in 40 CFR §63.866 and 63.867	Rule 335-3-11-.06 (1) and (38)
11. Pursuant to 40 CFR Part 63, Subpart MM the facility must maintain records of the black liquor firing rates in terms of tons/day or Mg/day.	Rule 335-3-11-.06 (1) and (38)
12. Records and supporting documentation shall be kept for the compliance determinations, operating ranges, and parameter ranges established for this unit.	Rule 335-3-11-.06 (1) and (38)
13. Pursuant to 40 CFR Part 63, Subpart MM the facility must submit an Excess Emissions Report containing the information required in §63.10 (c), as well as the number and duration of occurrences when the 3-hour rolling average parameter value is outside the range established at the time of a required periodic test that showed compliance or a test approved by the Department that showed compliance. This report is required to be submitted quarterly if the unit has six (6) or more rolling 3-hour average values that are outside the range established at the time of a required periodic test that showed compliance or a test approved by the Department that showed compliance, within any quarterly period, otherwise this report is to be submitted semi-annually.	Rule 335-3-11-.06 (1) and (38)
14. Pursuant to 40 CFR Part 60 Subpart Db, the unit is subject to the reporting and recordkeeping requirements of §60.49b.	Rule 335-3-10-.02(2)(b)
15. Per the requirements listed in 335-3-14-.04 (17)(e)(3), the facility shall calculate and maintain a record of the unit's annual PM, PM <sub>2.5</sub> , and H <sub>2</sub> SO <sub>4</sub> emissions, in tons per year, on a calendar year basis, for a period of 10 years following the resumption of regular operations after the change applied for in the application dated March 2015.	Rule 335-3-14-.04
16. The facility shall submit a report to the Director within 60 days after the end of each year during which records must be generated under subparagraph 335-3-14-.04 (17)(e)(3). The report shall contain all the information required by 335-3-14-.04 (17)(e)(1), the name, address, and telephone number of the source, the annual emissions as calculated pursuant to 335-3-14-.04 (17)(e)(3) and any other information the owner or operator wishes to furnish.	Rule 335-3-14-.04